0070800002A50

FIG. 1

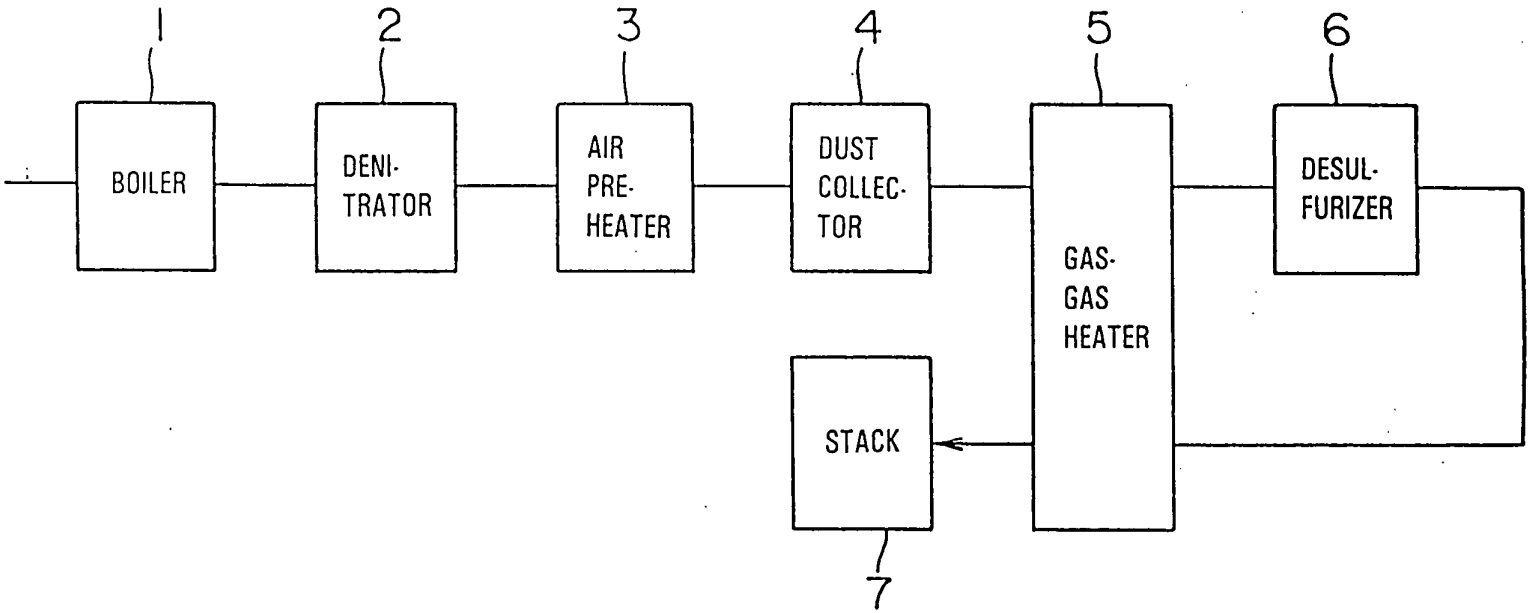


FIG. 2

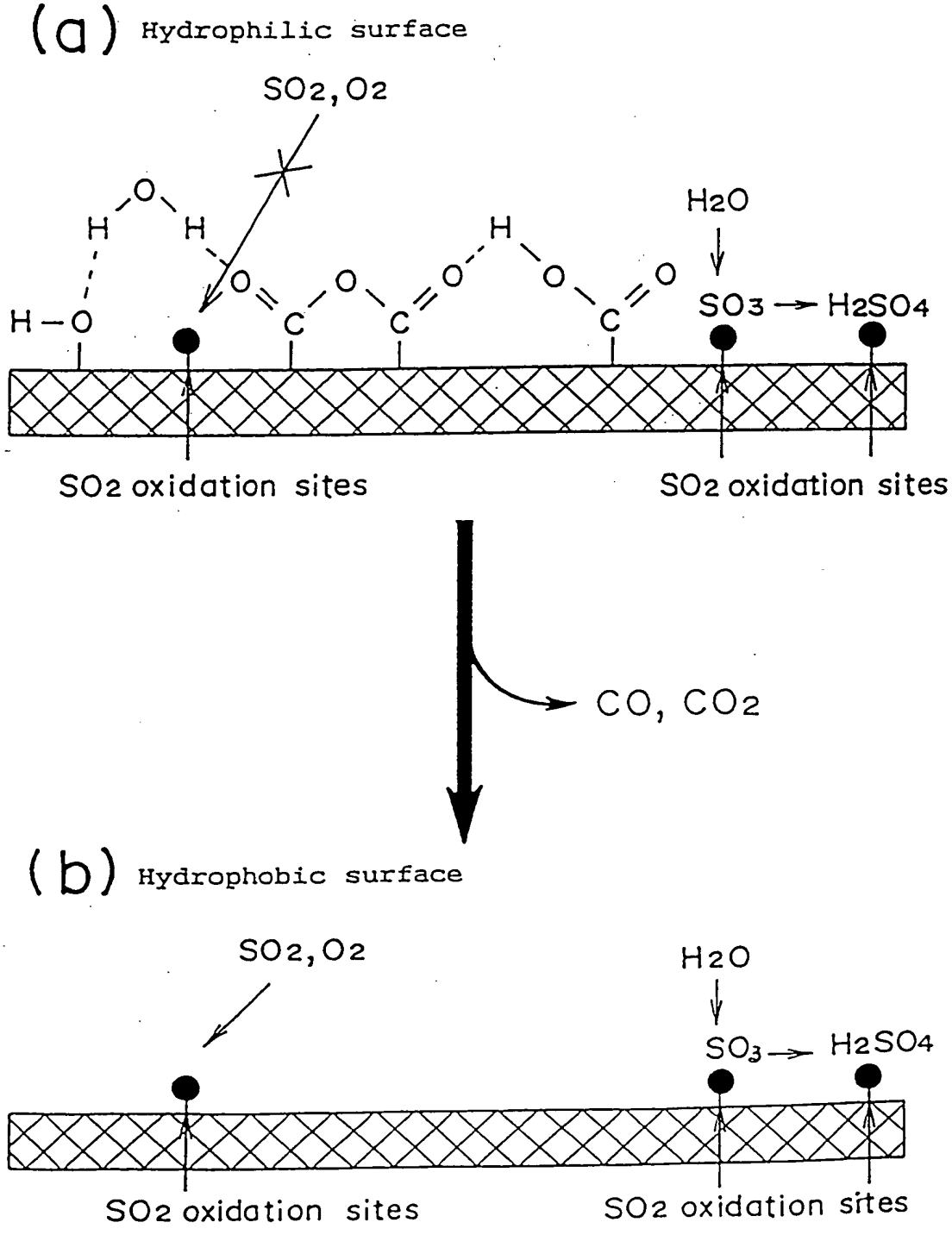

(a) Hydrophilic surface
SO2, O2
H2O
SO3 → H2SO4
SO2 oxidation sites
SO2 oxidation sites
CO, CO2
(b) Hydrophobic surface
SO2, O2
H2O
SO3 → H2SO4
SO2 oxidation sites
SO2 oxidation sites

FIG. 3

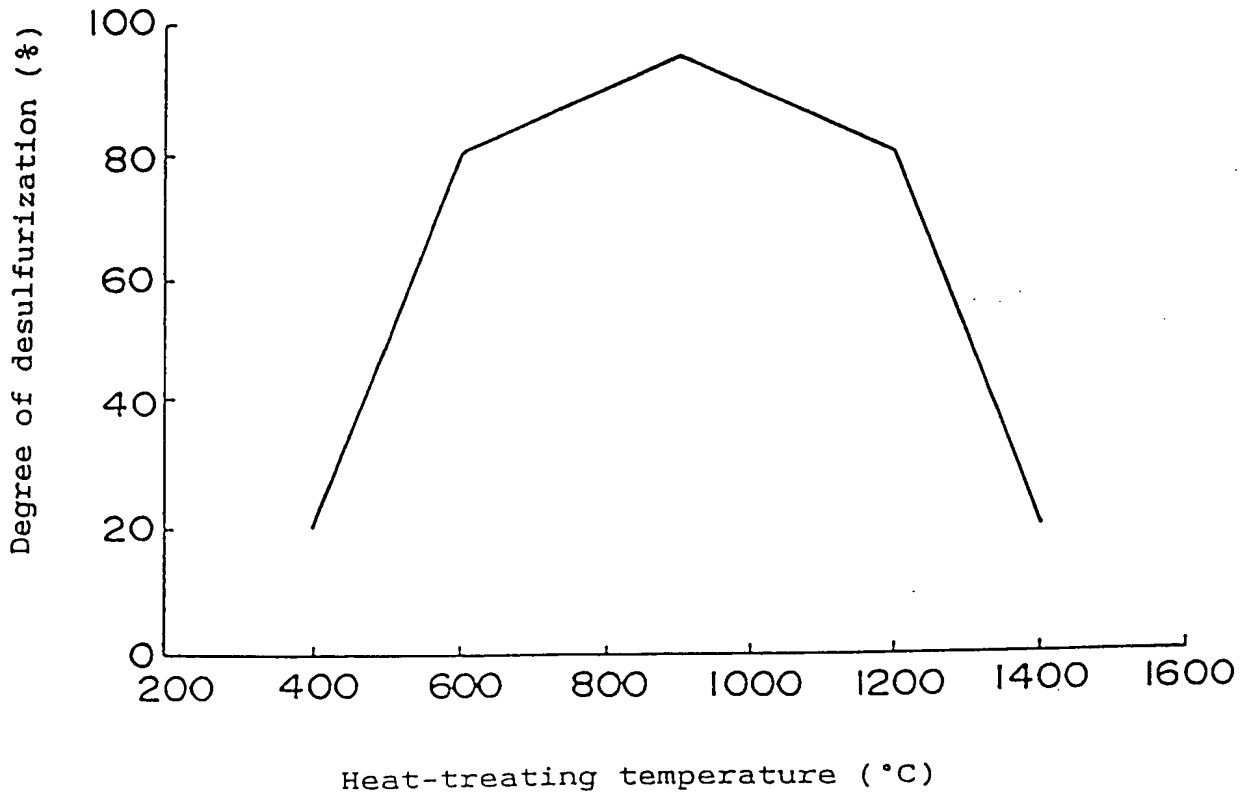
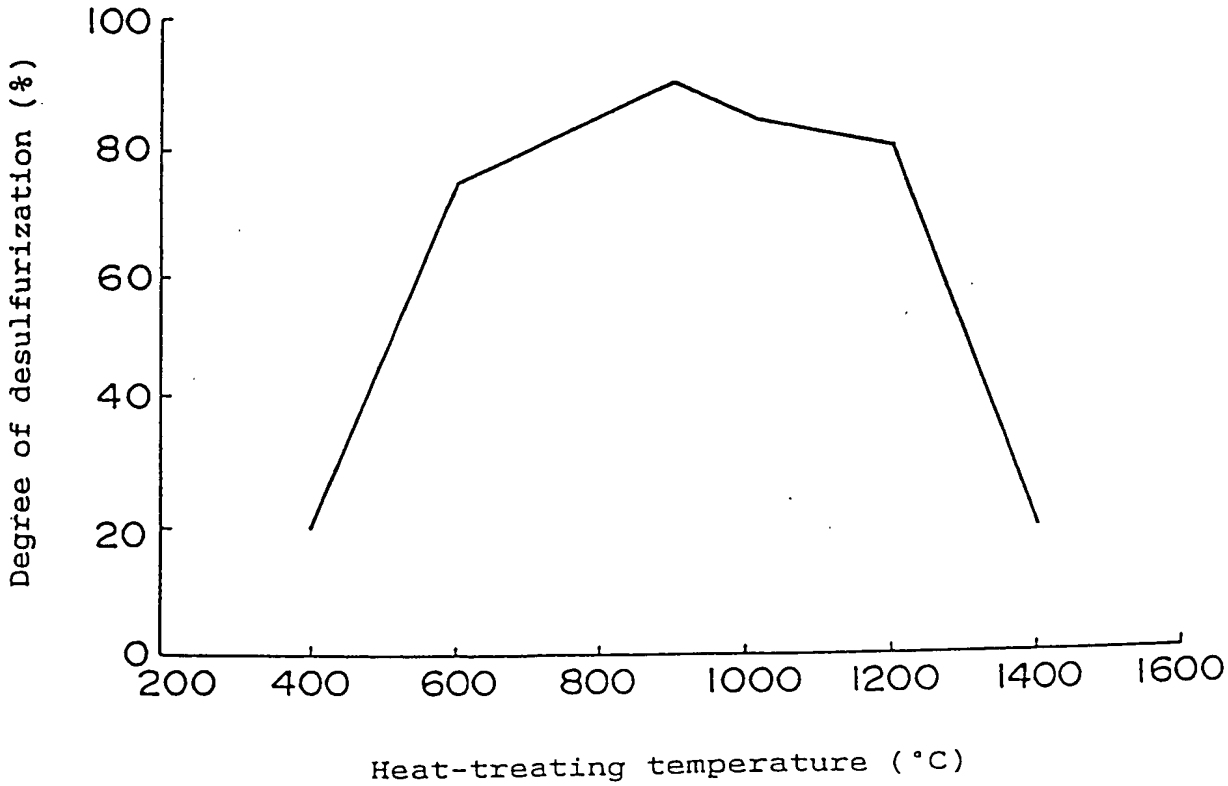

Degree of desulfurization (%)
100
80
60
40
20
0
200
400
600
800
1000
1200
1400
1600
Heat-treating temperature (°C)

FIG. 4


Degree of desulfurization (%)
100
80
60
40
20
0
200
400
600
800
1000
1200
1400
1600
Heat-treating temperature (°C)

0012801 0002160

FIG. 5

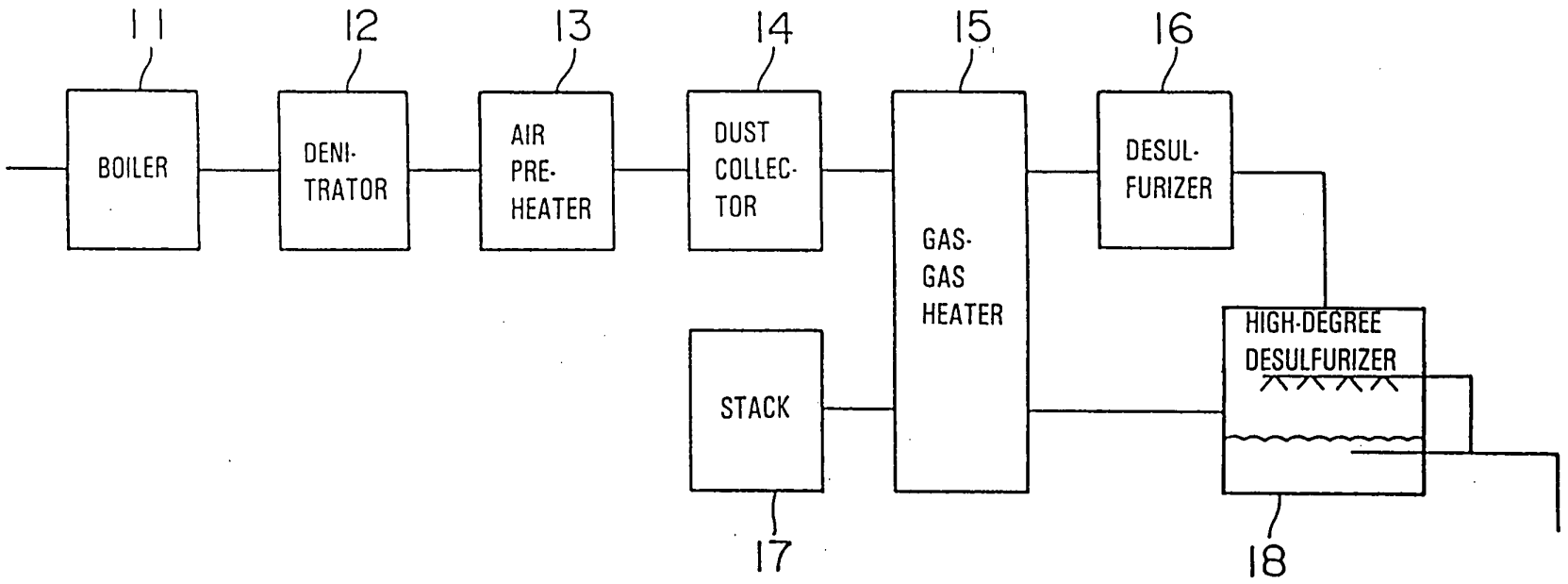


FIG. 6

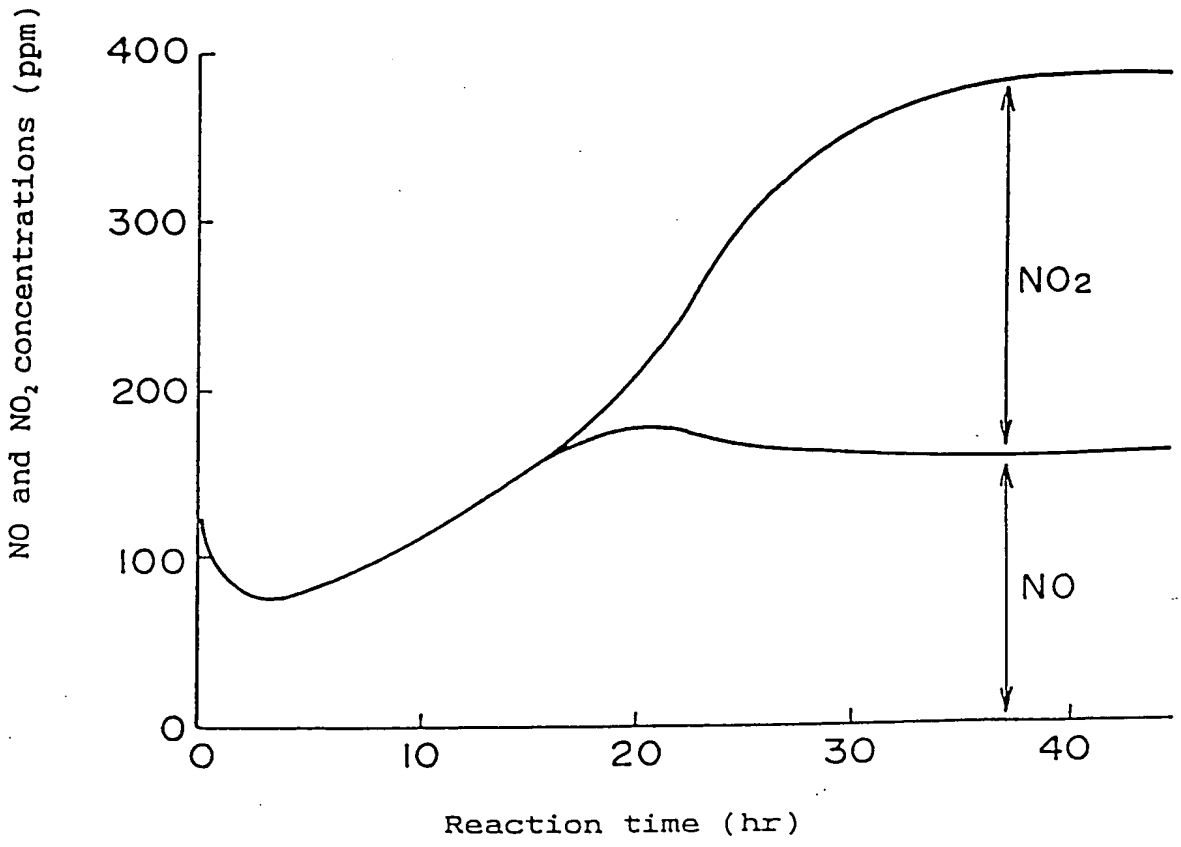

NO and NO2 concentrations (ppm)
400
300
200
100
0
0
10
20
30
40
Reaction time (hr)
NO2
NO

FIG. 7

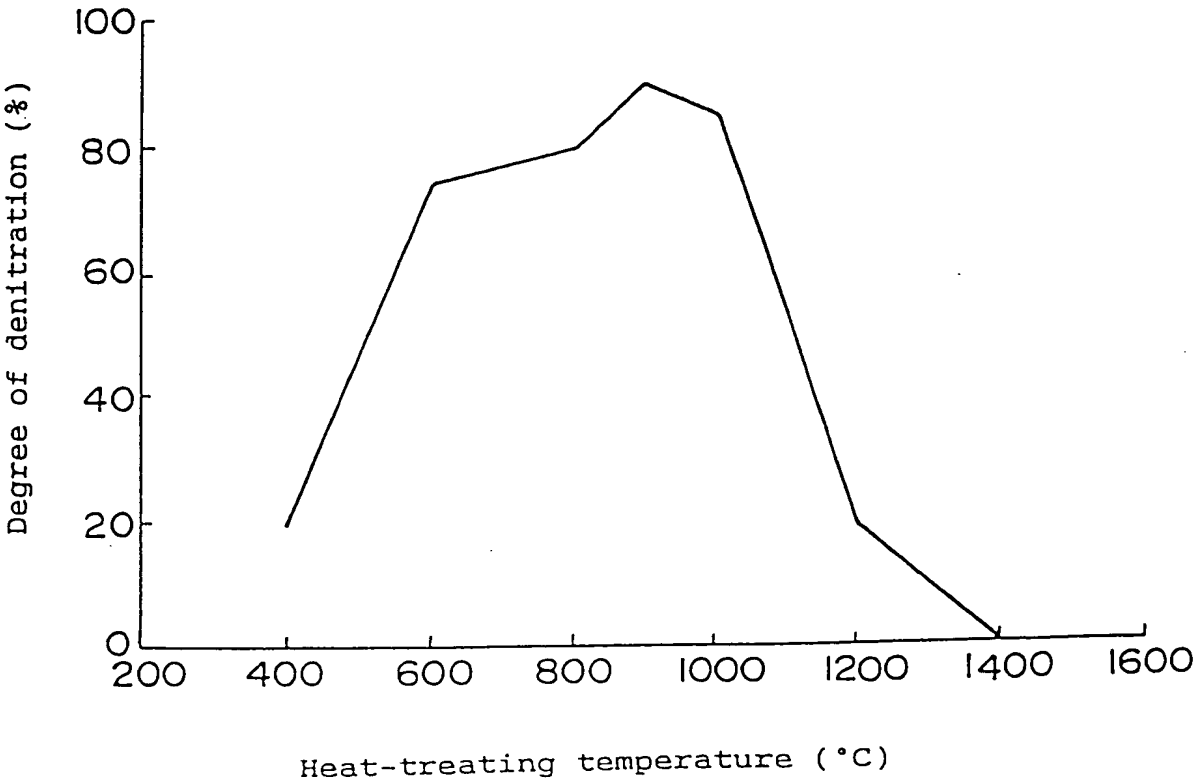
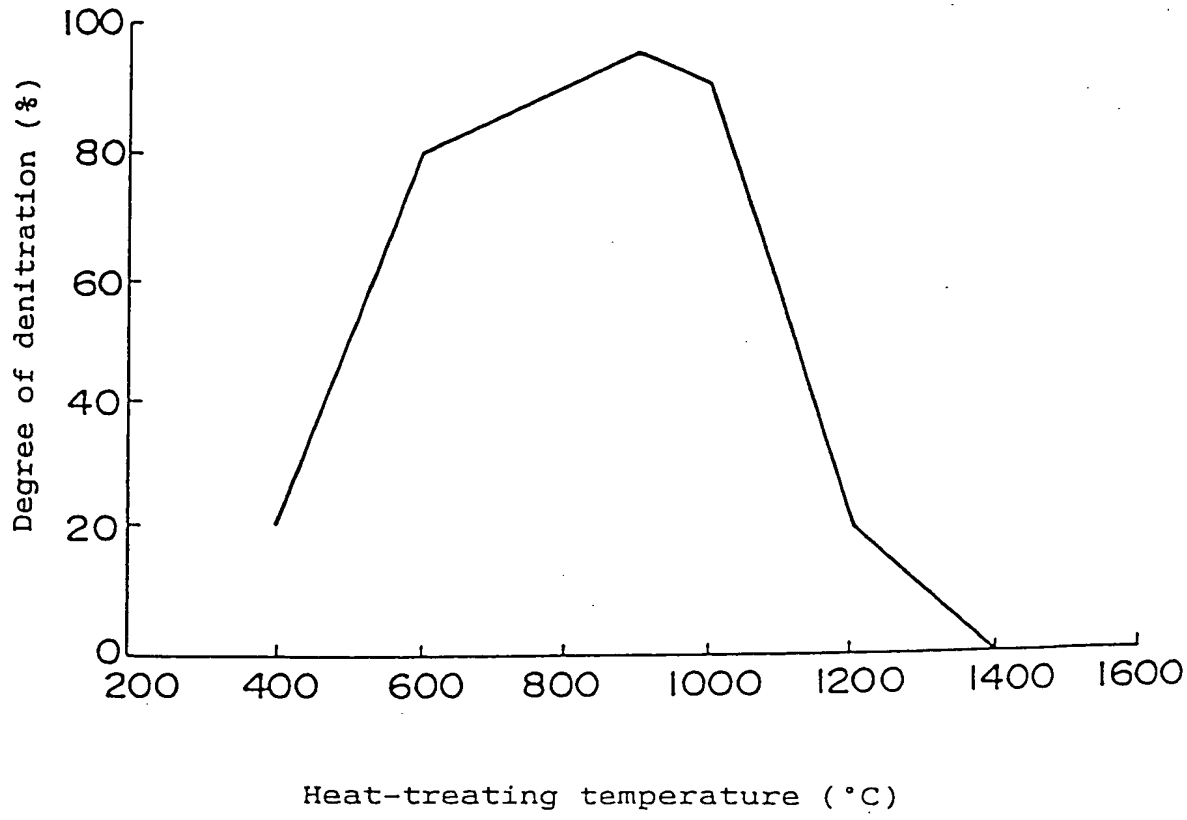

Degree of denitration (%)
100
80
60
40
20
0
200
400
600
800
1000
1200
1400
1600
Heat-treating temperature (°C)

FIG. 8


Degree of denitration (%)
100
80
60
40
20
0
200
400
600
800
1000
1200
1400
1600
Heat-treating temperature (°C)

0T200 60021960

FIG. 9

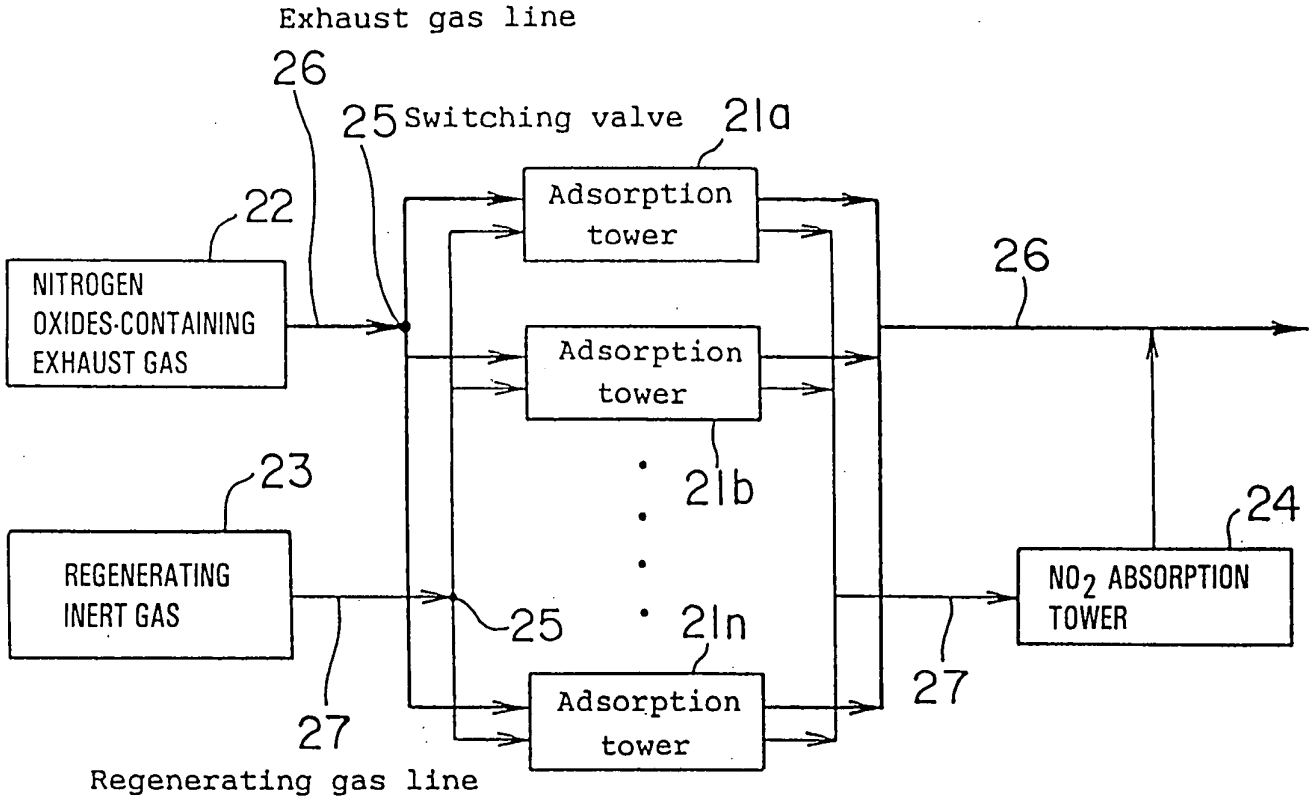


FIG. 10

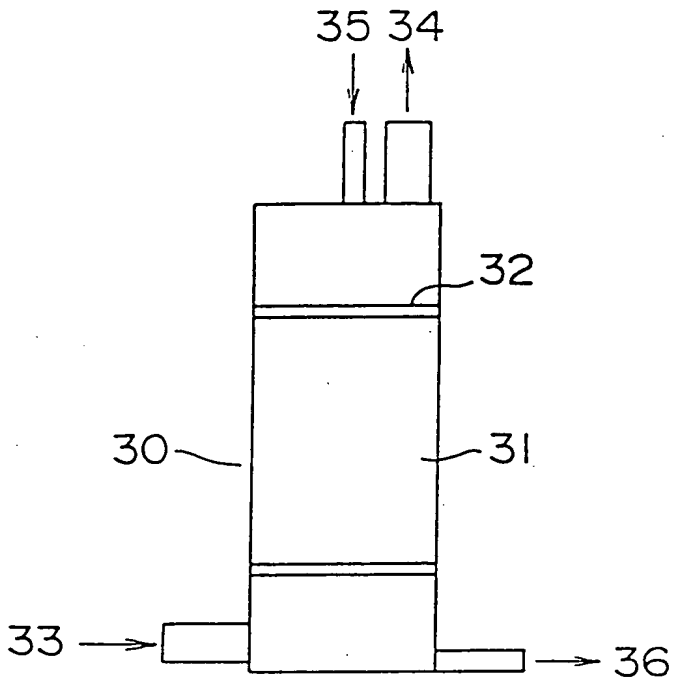
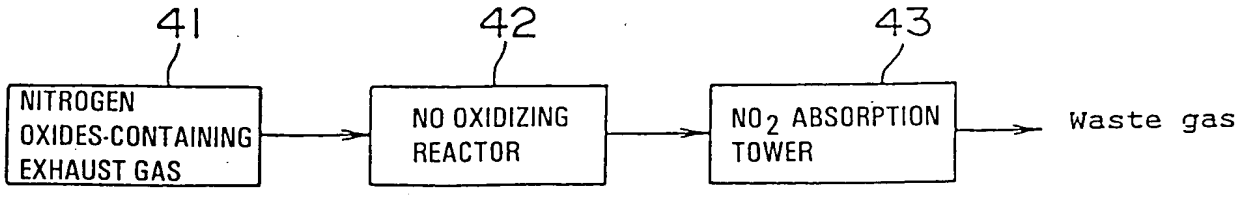
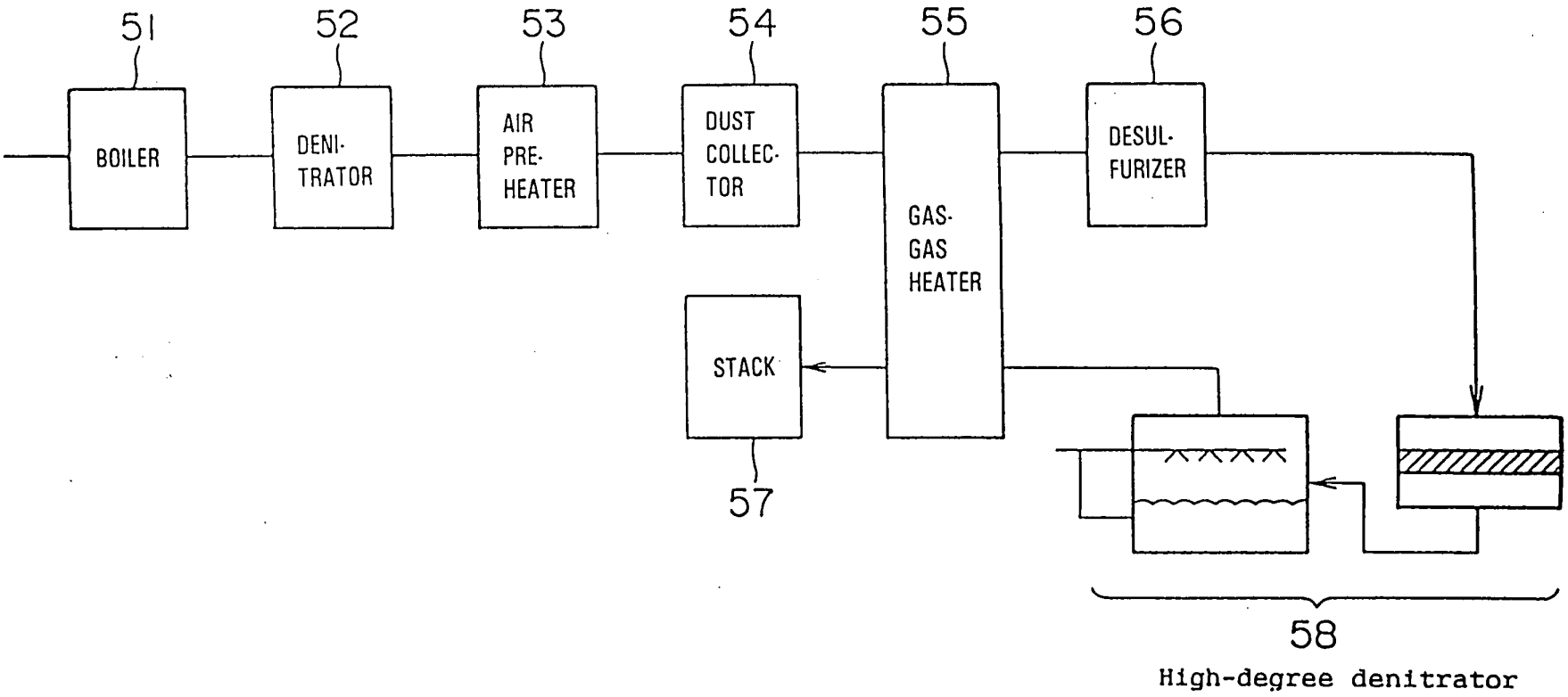

35
34
32
30
31
33
36

FIG. 11


41
42
43
NITROGEN OXIDES-CONTAINING EXHAUST GAS
NO OXIDIZING REACTOR
NO_2 ABSORPTION TOWER
Waste gas

0070 6021960

FIG. 12



F I G. 13

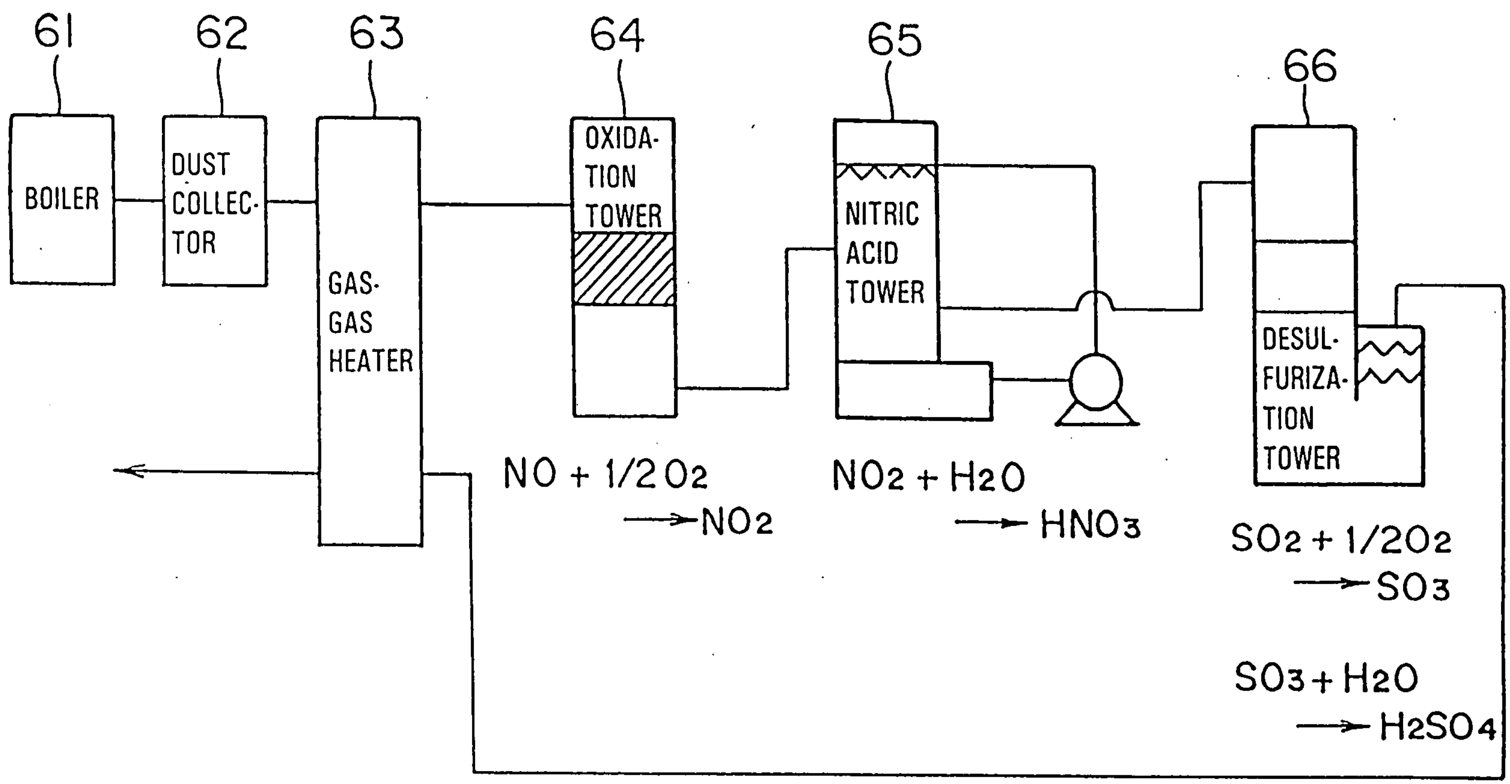
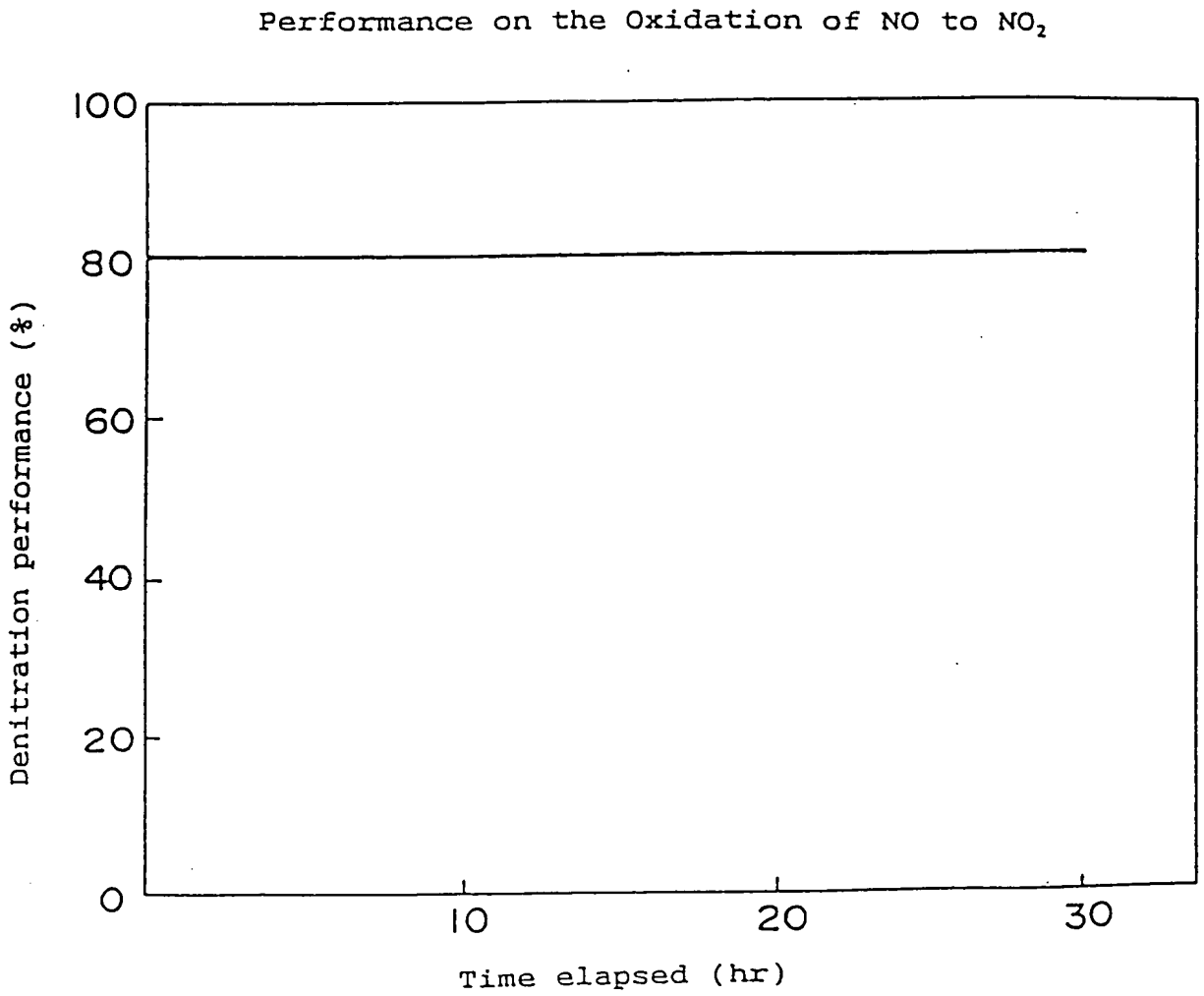

61
62
63
64
65
66
BOILER
DUST COLLECTOR
GAS-GAS HEATER
OXIDATION TOWER
NITRIC ACID TOWER
DESULFURIZATION TOWER
NO + 1/2O2 → NO2
NO2 + H2O → HNO3
SO2 + 1/2O2 → SO3
SO3 + H2O → H2SO4

FIG. 14



(Conditions)

Temperature of the gas to be treated: 25°C

Composition of the gas to be treated:

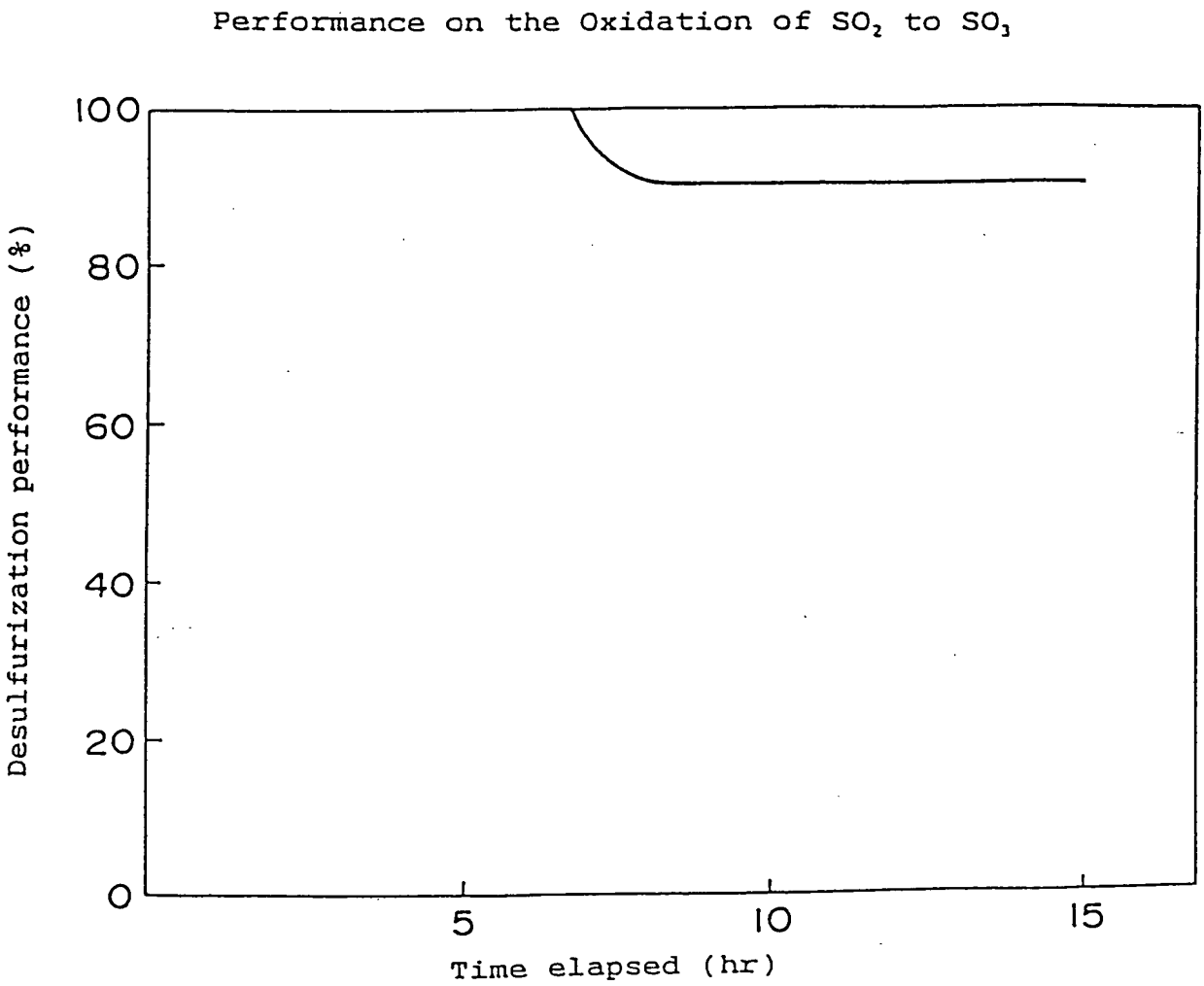
NO: 380 ppm

O_2: 4.0%

H_2O: Relative humidity 60%

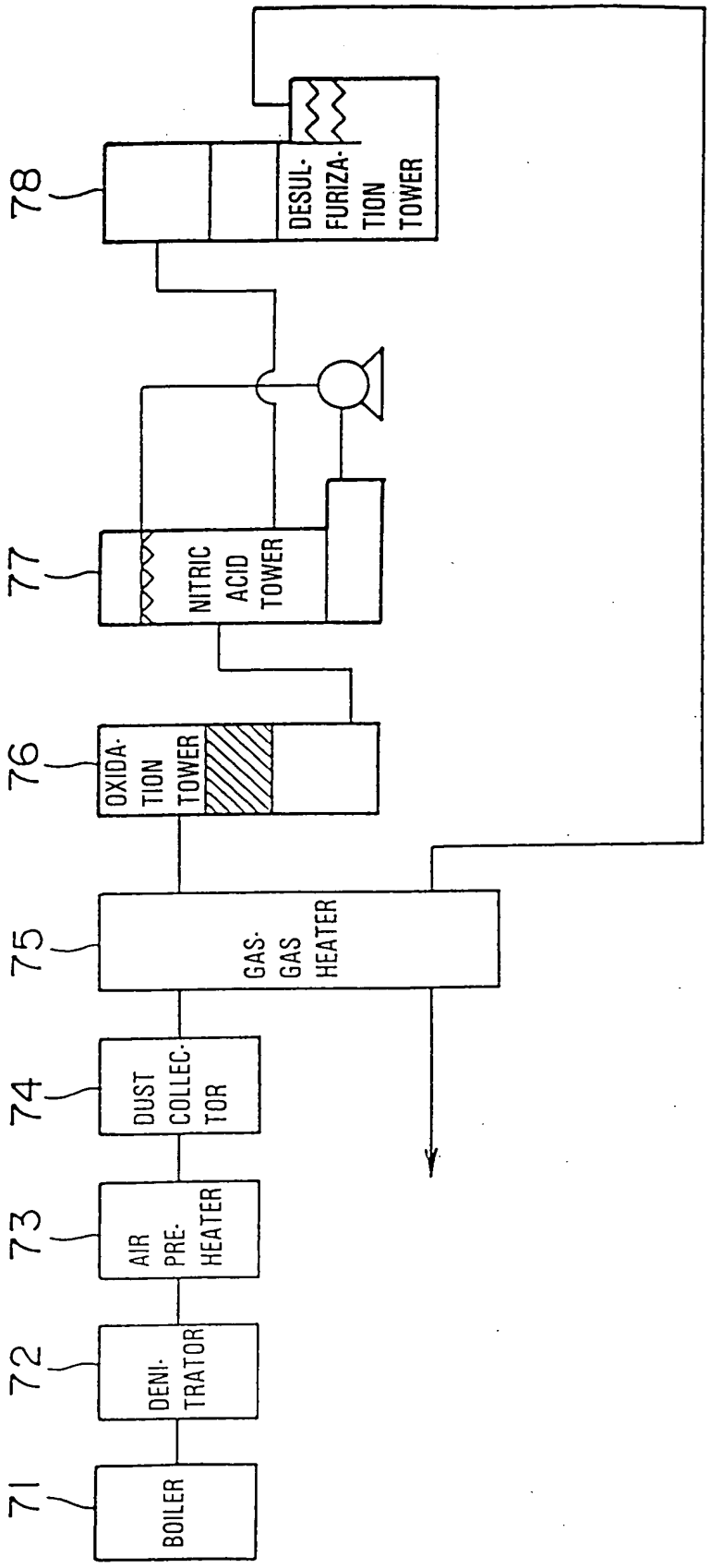
W/F = 1 x 10^{-2} g·min/ml

FIG. 15



(Conditions)
Temperature of the gas to be treated: 30°C
Composition of the gas to be treated:
SO_2: 500 ppm
O_2: 5 vol.%
H_2O: 10 vol.%
W/F = 5.0×10^{-4} g·min/ml (W/F is a value obtained by dividing the amount of active carbon fiber packed by the flow rate of the gas to be treated.)

FIG. 16


71
BOILER
72
DENI-TRATOR
73
AIR PRE-HEATER
74
DUST COLLEC-TOR
75
GAS-GAS HEATER
76
OXIDA-TION TOWER
77
NITRIC ACID TOWER
78
DESUL-FURIZA-TION TOWER

09742009.020100

FIG.17

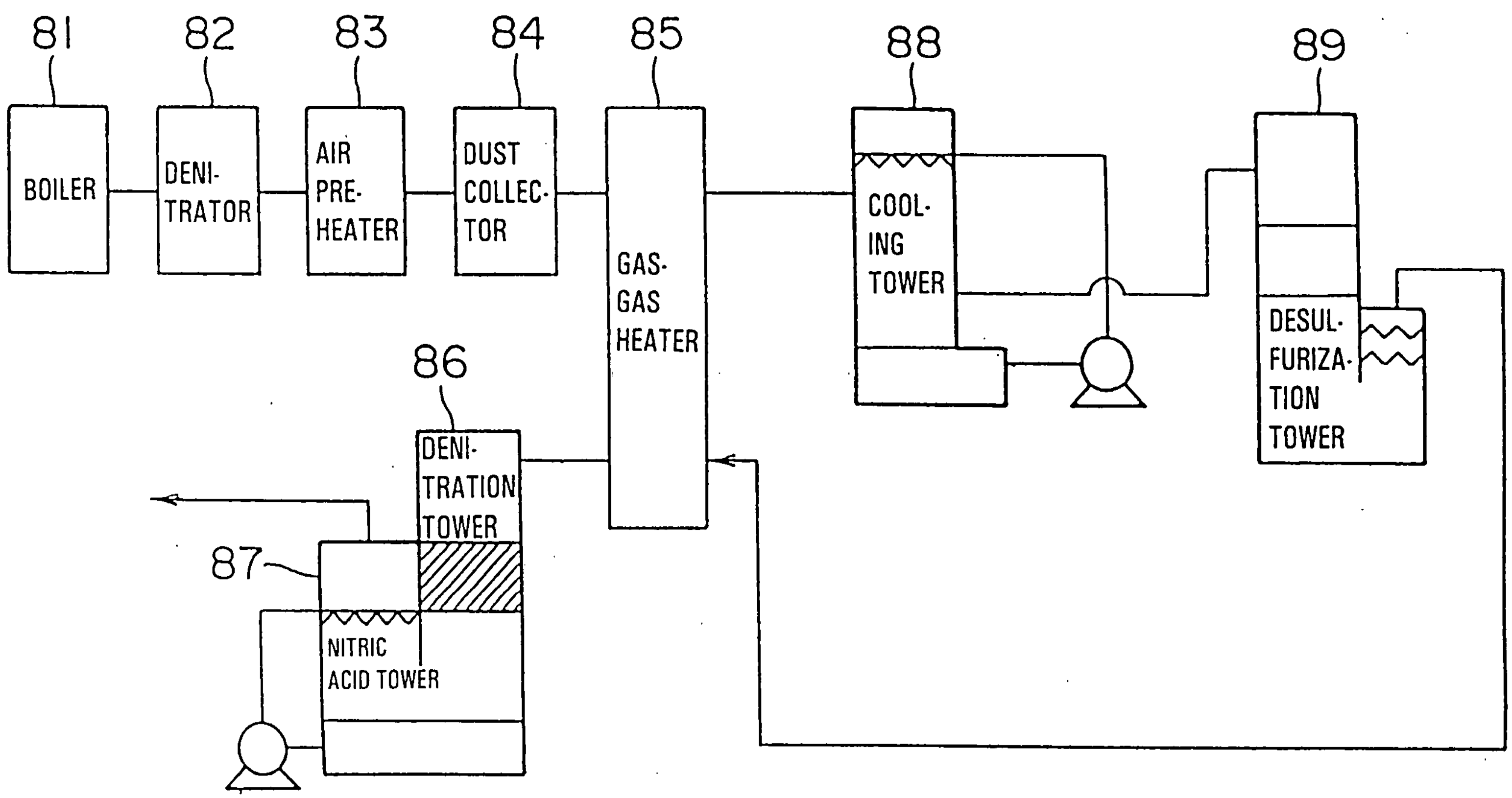
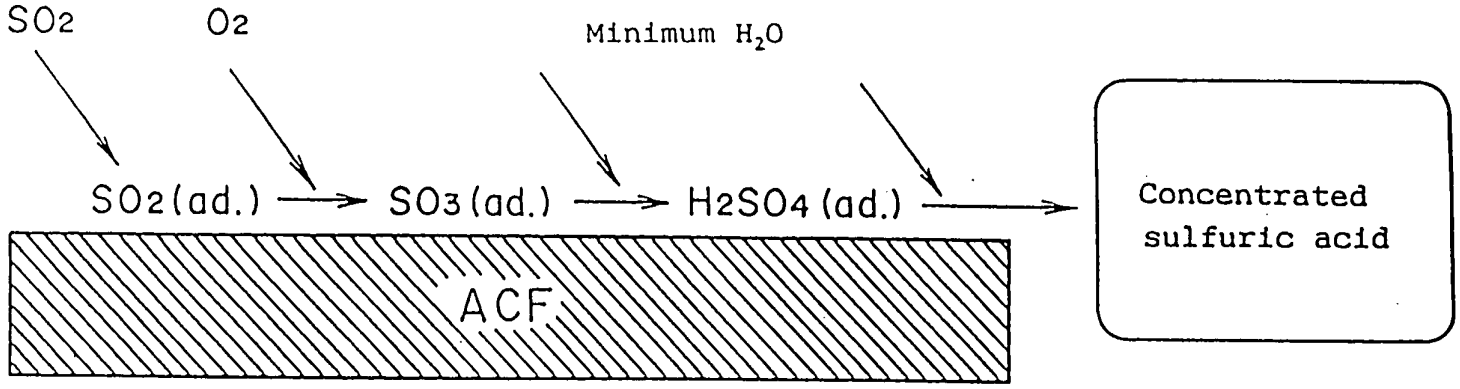


FIG. 18


SO2
O2
Minimum H2O
SO2(ad.)
SO3(ad.)
H2SO4(ad.)
ACF
Concentrated sulfuric acid